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The dynamic and asymmetric herding behavior of US equity fund managers in the stock market

Hao Fang[a], Chung-Hua Shen[b], Yen-Hsien Lee[c,*]

[a] Department of Assets and Property Management, Hwa Hsia University of Technology, No. 111, Gong Jhuan Rd., Chung Ho, New Taipei City 23568, Taiwan, ROC

[b] Department of Finance and Banking, College of Management, Shih Chien University, No. 70, Dazhi St., Zhongshan Dist., Taipei City 10462, Taiwan, ROC

[c] Department of Finance, Chung Yuan Christian University, No. 200, Chung Pei Rd., Chung Li 32023, Taiwan, ROC

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ABSTRACT

This paper uses monthly data in a Markov-switching cross-sectional absolute deviation (CSAD) model to reveal the existence of dynamic herding behavior by US equity fund managers in the stock market. We observe positive herding effects in different types of funds during recessionary periods, whereas we find evidence of negative herding behavior in most types of funds during expansionary periods. Our results for asymmetric herding indicate that US fund managers exhibit stronger positive herding behavior when the market is decreasing, when the fund size is smaller and when the fund's period of establishment is shorter during a recessionary period. Conversely, a negative herding effect is stronger when the market is rising, when the fund is larger, and when the fund's period of establishment is longer during an expansionary period. The herding behavior of US fund managers is primarily informational during an expansionary period, but significant information-value herding only exists in the following six months.

1. Introduction

The US has the world's largest mutual fund market, with mutual fund assets totaling US$ 11.6 trillion in 2011. US mutual funds represent nearly 50% of the total world mutual fund market of US$ 23.8 trillion. Moreover, the US mutual fund industry is more than 70 years old. As of December 2011, 8120 mutual funds were offered in the US market, including 4770 equity funds. There are also substantial varieties of US mutual funds that are characterized by different features and different levels of performance. Based on their dominance in the global stock markets, the influence of the stock trades of US fund managers on stock prices and price fluctuations is significantly larger than that of the trading activities of other fund managers and other investors. In recent years, mutual funds have faced increasingly intense pressure from external competition. In addition, the investment decisions of fund managers are not always rational due to agency problems and competition. During extreme market fluctuations, fund managers can easily lose confidence and abandon their own opinions to follow the investment strategies of others, exhibiting what is called herding behavior. On the one hand, herding behavior by US fund managers could lead to price inefficiencies and sharper price fluctuations in the global stock market. On the other hand, their herding behavior could be informational on subsequent fund returns.

Based on the dynamic nature of the herding behavior of fund managers, the aim of this study is to determine whether the herding behavior of managers of US equity funds changes in different market states. Then, positive herding is broadly defined as a group of investors following each other into and out of asset positions, which can be regarded as a market-wide phenomenon

* Corresponding author.
E-mail addresses: hihaoa@gmail.com (H. Fang), chshen01@ntu.edu.tw (C.-H. Shen), yh@cycu.edu.tw (Y.-H. Lee).

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(Christie & Huang, 1995). Thus, when positive herding exists, there is the expected increase in market consensus and the expected decrease in the cross-sectional return dispersions. In contrast, negative herding is defined as the joint actions of a group of investors which go beyond their responses to common news. A part of investors simultaneously moves out of one subset of assets/markets and then moves into another subset (Gebka & Wohar, 2013). Hence, when negative herding occurs, it is likely to promote price increases/decreases in the positions of assets or markets which moved into/out of; and thus increase return dispersion across assets or markets. Therefore, we explore the following issues. In addition to the general positive herding effects, we try to find out if US equity fund managers also exhibit negative herding behavior. Moreover, based on information asymmetry, we explore whether and how mutual funds exhibit asymmetric herding under specific market circumstances and according to specific fund characteristics. Finally, to clarify whether the herding behavior of equity fund managers is value-relevant information, and if the post-herding returns of equity funds positive after controlling for other risk factors. These issues have not yet been discussed in depth in the literature.

To fill the gap in the herding literature, it is necessary to reinforce the asymmetric herding effects based on the properties of mutual funds rather than those of institutional investors or general investors. We can regard stock characteristics as fund property because we focus on equity funds. Some studies propose that institutional investors tend to herd in buying large-size stocks because they follow common market signals (Sias, 2004; Lin & Swanson, 2003; Lu et al., 2012). However, other studies indicate that the herding of fund managers is more pronounced in small stocks because they may receive lower information from these stocks or such stocks are less liquid (Lakonishok, Shleifer, & Vishny, 1992; Wermers, 1999; Choe, Kho, & Stulz, 1999; Huang et al., 2010; Liao et al., 2011). In addition, Lin, Huang, and Chen (2007) propose that institutional investors tend to buy stocks with high returns in the past, which denotes the existence of feedback trading. Mutual funds either exhibit the most winner feedback trading in extremely down markets (Lin et al., 2007), or they use negative feedback trading for underpriced stocks with lower past returns (Hung, Lu, & Lee, 2010). Furthermore, institutional investors prefer to buy stocks with higher liquidity and higher market-to-book ratio (Badrinath et al., 1996; Falkenstein, 1996; Gompers and Metrick, 2001), while mutual funds prefer to herd in buying stocks with lower liquidity and lower market-to-book ratio (Hung et al., 2010). Thus, this study focuses on analyzing the asymmetric herding behavior of fund managers. In addition to investigating positive herding behavior in which fund managers follow information on market-wide price movements, which is the emphasis of most of the studies in this area, we also examine negative herding behavior whereby fund managers focus on the excessive opinions of a subset of traders or themselves by moving into or out of positions in the stock market (Gebka & Wohar, 2013). Moreover, when comparing the post-herding performance of mutual funds and other institutional investors, we seemingly find that the post-herding performance of mutual funds is better than that of other institutional investors. Lin et al. (2007) demonstrate that, in terms of post-herding returns, mutual funds outperform foreign investors and security dealers. Hung et al. (2010) indicate that the herd buying of mutual funds is positively correlated with future stock returns, while their herd selling is negatively correlated with subsequent stock returns. Hence, we focus on investigating whether the herding of mutual funds is based on value-relevant information.

Specifically, our paper makes the following contributions. First, unlike previous studies that focus on herding by general investors in the stock markets by using a static model of return dispersion, this paper uses a regime-switching-based cross-sectional absolute deviation (CSAD) model to investigate the dynamic nature of the herding behavior of US fund managers of equity-type funds in the global stock markets. Moreover, one advantage of using the dynamic-based CSAD model measured by return dispersions may be that the return-dispersion-based model follows the CAPM specification of returns and allows for a time variant, which is different from the traditional LSV model that can be expected in an efficient market setting. Furthermore, in addition to measuring positive herding behavior, we also consider the existence of negative herding due to localized herding, flight to quality during market stress and fund managers' overconfidence. Next, we analyze the differences in herding effects for different types of equity funds by using the dynamic-based CSAD model. Then, we test for potential asymmetries in herding behavior based on market circumstances according to market returns and based on fund characteristics such as fund size and a fund's period of establishment. Considering fund characteristics, market circumstances and the herding tendencies of fund managers may strengthen the analysis of fund manager herding and encourage other investors in the stock market to follow the changes in funds' positions by adjusting their portfolios. Finally, to investigate the price impact of herding on US equity funds in the global stock market, we analyze the subsequent returns of all funds' herding effects (after controlling for other risk factors driving returns) to investigate their post-herding performance.

The remainder of this paper is organized as follows. Section 2 summarizes the related literature. Section 3 describes the data range and the analysis. Section 4 explains the method, including an examination of the dynamic herding behavior of US fund managers, the cross-sectional herding differences for different types of equity funds, the asymmetric herding behavior of fund managers and the price impact of their herding. Section 5 discusses the empirical results. Section 6 reports the conclusions.

2. Literature review

The recent literature employs two primary models of investor herding behavior. The Lakonishok, Shleifer and Vishny (1992) (LSV) indicator focuses on the number of transactions by investors with respect to a specific security, which is considered to be the current standard in the literature on funds' herding behavior (Lakonishok et al., 1992; Grinblatt, Titman, & Wermer, 1995; Wermers, 1999; Wylie, 2005). These studies have empirically found the existence of herding by fund managers in the stock market, with more evidence of herding in buying stocks. By contrast, the cross-sectional standard dispersion (CSSD) model of Christie and Huang (1995) (CH) and the CSAD model of Chang, Chang and Khorana (2000) (CCK) focus on the degree of dispersion of an investor with respect to securities' returns; these models are considered as the current benchmarks in the literature on stock market herding. In fact, the non-